

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207581F JOINT STARS					
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	145,592	152,728	55,515	112,207	141,883	125,483	55,510	Continuing	TBD
0003 JSTARS	145,592	75,098	55,515	112,207	141,883	125,483	55,510	Continuing	TBD
4995 Multi-Platform RTIP	0	77,630	0	0	0	0	0	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

(U) **A. Mission Description**

This program element funds two related but distinct Air Force efforts: the Joint Surveillance Target Attack Radar System (Joint STARS) and the Multi-Platform Radar Technology Insertion Program (MP-RTIP).

Beginning in FY03 MP-RTIP funding will be identified under PE 27449F.

There is an Air Force and Army need to provide, from airborne platforms, near-real time surveillance and targeting information on moving and stationary ground targets (growth to maritime operations), slow moving rotary and fixed wing aircraft, and rotating antennas. This information enables operational and tactical commanders to make and execute battle decisions. To meet these needs, the Air Force and Army initiated the Joint Surveillance Target Attack Radar System (Joint STARS) program with the Air Force as lead service. Joint STARS provides target information for pairing direct attack aircraft and standoff weapons against selected targets.

The Multi-Platform Radar Technology Insertion Program (MP-RTIP) program is the result of a restructuring of the Joint STARS Radar Technology Insertion Program (RTIP), formerly a Pre-Planned Product Improvement to Joint STARS. MP-RTIP will deliver enhanced Wide Area Surveillance (WAS) system capabilities to the warfighter, provide for a robust Global Hawk reconnaissance capability, and enable NATO's Alliance Ground Surveillance (AGS) program.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 2002

BUDGET ACTIVITY

07 - Operational System Development

PE NUMBER AND TITLE

0207581F JOINT STARS

(U) **B. Budget Activity Justification**

This program is in Budget Activity 7, Operational Systems Development, due to efforts supporting a fielded, post MS III operational weapon system. These funds are required to meet the requirements, capabilities and efforts further defined in the 'Mission Description' section of the two following R-2s.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U) Previous President's Budget	144,118	147,859	247,203	TBD
(U) Appropriated Value	149,118	147,859		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions		-1,261		
b. Small Business Innovative Research	-4,566			
c. Omnibus or Other Above Threshold Reprogram				
d. Below Threshold Reprogram	2,408			
e. Rescissions	-1,368			
(U) Adjustments to Budget Years Since FY 2002 PBR		6,130	-191,688	TBD
(U) Current Budget Submit/FY 2003 PBR	145,592	152,728	55,515	TBD

(U) **Significant Program Changes:**

The FY03 decrease from the FY03 BES is attributable to C2ISR transition and MP-RTIP moving to the Multi-Sensor Cmd & Control Constellation PE 27449F.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207581F JOINT STARS				PROJECT 0003	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
0003 JSTARS	145,592	75,098	55,515	112,207	141,883	125,483	55,510	Continuing	TBD
<p>In FY2003 the Air Force established a program element for the Multi-Platform Radar Technology Insertion Program (MP-RTIP). Effective with FY03 funding, MP-RTIP efforts will be transferred to PE 27449F, Multi-Sensor Command & Control Constellation, from PE 27581F Joint STARS, BPAC 674995.</p> <p>(U) <u>A. Mission Description</u></p> <p>There is an Air Force and Army need to provide, from airborne platforms, near-real time surveillance and targeting information on moving and stationary ground targets (growth to maritime operations), slow moving rotary and fixed wing aircraft, and rotating antennas. This information enables operational and tactical commanders to make and execute battle decisions. To meet these needs, the Air Force and Army initiated the Joint Surveillance Target Attack Radar System (Joint STARS) program with the Air Force as lead service. Joint STARS provides target information for pairing direct attack aircraft and standoff weapons against selected targets. The system is capable of being cued by other reconnaissance, surveillance, and target acquisition systems and is able to respond rapidly to worldwide contingencies. In addition, the program office (office symbol: Electronic Systems Center/Joint STARS (ESC/JS)) is providing a flight crew training system which supports initial qualification training, update, and continuation training for JSTARS pilots, copilots and flight engineers at a rate that meets ACC operational needs. The operational utility of the system was effectively demonstrated by the two developmental aircraft in support of combat operations during Desert Storm. ESC/JS is also determining the means to enhance the warfighter's battle management command, control & communications (C3) capability to achieve the Global Strike Task Force (GSTF) vision. ESC/JS is developing advanced battle management decision aids and information fusion to enable commanders to make more timely decisions in tracking and killing time critical targets (TCTs) and achieving a Predictive Battle-Space Awareness (PBA) environment (see Kill Chain Enhancement Modification). The Joint STARS Program Office has been designated as the Air Force acquisition lead for the Joint Service Work Station (JSWS) and is currently servicing the Combat Air Forces JSWS needs. In Sep 96 the Defense Acquisition Board (DAB) Milestone III Review approved full rate production of a 19 E-8C program. The 93d Air Control Wing, Robins AFB, GA, declared Joint STARS Initial Operational Capability (IOC) in Dec 97 and the system is now participating in operational and training exercises. After the 1996 Quadrennial Defense Review recommended a revision of the Joint STARS production profile, the Air Force reduced Joint STARS production from 19 to 13 E-8Cs. Full funding for the 14th, 15th and 16th E-8C was provided by OSD and the Congress during the FY00, FY01 and FY02 budget cycles respectively. Long lead funding for the 17th E-8C was included in FY02 PB; full funding is included in the FY03 PB.</p>									
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2002
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
07 - Operational System Development	0207581F JOINT STARS	0003
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2001 (\$ in Thousands)</u>		
(U) \$25,786	Continued Block 20 Training Systems (examples include Support Training System (STS) & Distributed Mission Training (DMT) and complete CRP Development) Efforts	
(U) \$23,511	Continued Block 30 (such as: SATCOM, Connectivity, ASU (Link 16)) Efforts	
(U) \$50,359	Continued Block 40 (Multi-Platform RTIP) Efforts. Beginning in FY02 funding moves to BPAC 674995.	
(U) \$30,955	Continued Test Efforts (for example: JTF, FOTS/JETS, Range Support, Support of T-3 and Test Labs)	
(U) \$6,500	Continued Flight Crew Training System (FCTS) Development	
(U) \$100	Continued R&M/International Cooperation/Standardization/Interoperability Activities (for example: DMS, DII COE, NC3A, ABCCC Divestiture, Multi-Mission Command & Control (MC2C) Constellation Studies/Analysis, Network Centric Collaborative Targeting (NCCT) Studies/Implementation, Improved Data Modem, etc.)	
(U) \$3,534	Indirect SPO OPS Support	
(U) \$4,847	Began Global Air Traffic Management (GATM) Pre EMD Risk Reduction Activities (Congressional Add)	
(U) \$145,592	Total	
(U) <u>FY 2002 (\$ in Thousands)</u>		
(U) \$13,766	Continue Training & Support Systems Development	
(U) \$23,628	Continue Block 30 (such as: SATCOM, Connectivity, ASU(Link 16)) Efforts	
(U) \$27,083	Continue Test Efforts (for example: JTF, JETS, Range Support, Support of T-3 & Test Labs)	
(U) \$643	Complete FCTS Development	
(U) \$5,800	Reduced Vertical Separation Minimum (RVSM)	
(U) \$3,224	Indirect SPO OPS Support	
(U) \$954	Kill Chain Enhancements/Spiral Development	
(U) \$75,098	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$7,500	Complete SATCOM EMD effort.	
(U) \$30,759	Continue Test Effort (for example: JTF, JETS, Range Support, Support of T-3 & Test Labs).	
(U) \$9,100	Continue efforts such as: ASU (Link 16), Connectivity, etc.	
(U) \$372	Kill Chain Enhancements/Spiral Development	
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BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207581F JOINT STARS			PROJECT 0003																																																																					
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2003 (\$ in Thousands) Continued</u></p> <p>(U) \$4,000 ABCCC Migration to Joint STARS</p> <p>(U) \$3,784 Indirect SPO OPS Spt</p> <p>(U) \$55,515 Total</p> <p>(U) <u>B. Project Change Summary</u></p> <p>This program is in Budget Activity 7 - Operational System Development. Initial operational capability was achieved in Dec 97. Developmental work continues on advanced planning activities and systems upgrades, as well as systems integration and interoperability efforts.</p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;"></th> <th style="width: 10%; text-align: center;"><u>FY 2001</u></th> <th style="width: 10%; text-align: center;"><u>FY 2002</u></th> <th style="width: 10%; text-align: center;"><u>FY 2003</u></th> <th style="width: 10%; text-align: center;"><u>FY 2004</u></th> <th style="width: 10%; text-align: center;"><u>FY 2005</u></th> <th style="width: 10%; text-align: center;"><u>FY 2006</u></th> <th style="width: 10%; text-align: center;"><u>FY 2007</u></th> <th style="width: 10%; text-align: center;"><u>Cost to</u></th> <th style="width: 10%; text-align: center;"><u>Total Cost</u></th> </tr> <tr> <th></th> <th style="text-align: center;"><u>Actual</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Complete</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>(U) Aircraft Procurement, AF, BP10 (PE 27581F)</td> <td style="text-align: right;">286,738</td> <td style="text-align: right;">317,805</td> <td style="text-align: right;">279,268</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td></td> <td style="text-align: right;">5,560,847</td> </tr> <tr> <td>(U) Modifications, BP11 (PE 27581F)</td> <td style="text-align: right;">33,948</td> <td style="text-align: right;">66,458</td> <td style="text-align: right;">19,307</td> <td style="text-align: right;">25,811</td> <td style="text-align: right;">44,705</td> <td style="text-align: right;">30,767</td> <td style="text-align: right;">33,174</td> <td></td> <td></td> </tr> <tr> <td>(U) Spares, BP16 (PE 27581F)</td> <td style="text-align: right;">32,212</td> <td style="text-align: right;">26,364</td> <td style="text-align: right;">1,810</td> <td style="text-align: right;">35,190</td> <td style="text-align: right;">36,407</td> <td style="text-align: right;">611</td> <td style="text-align: right;">1,151</td> <td></td> <td style="text-align: right;">424,431</td> </tr> <tr> <td>(U) Quantity, Joint STARS E-8C Aircraft Proc.</td> <td style="text-align: right;">1</td> <td style="text-align: right;">1</td> <td style="text-align: right;">1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(U) <u>D. Acquisition Strategy</u></p> <p>Joint STARS Low Rate Initial Production (LRIP) was approved by the Defense Acquisition Board (DAB) in FY93. Acquisition began with the procurement of 2 E-8Cs in FY93, and continued at 2 E-8Cs per year through FY97. Procurement funding continued with 1 E-8C in FY98, 2 E-8Cs in FY99, 1 E-8C in FY00, 1 E-8C in FY01 and 1 E-8C in FY02. Long lead funding for the 17th E-8C is included in the FY 02 PB; full funding is included in the FY03 PB.</p> <p>(U) <u>E. Schedule Profile</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"></th> <th style="width: 25%; text-align: center;"><u>FY 2001</u></th> <th style="width: 25%; text-align: center;"><u>FY 2002</u></th> <th style="width: 25%; text-align: center;"><u>FY 2003</u></th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>										<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>		(U) Aircraft Procurement, AF, BP10 (PE 27581F)	286,738	317,805	279,268	0	0	0	0		5,560,847	(U) Modifications, BP11 (PE 27581F)	33,948	66,458	19,307	25,811	44,705	30,767	33,174			(U) Spares, BP16 (PE 27581F)	32,212	26,364	1,810	35,190	36,407	611	1,151		424,431	(U) Quantity, Joint STARS E-8C Aircraft Proc.	1	1	1								<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>				
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>																																																																			
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	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>																																																																									
<div style="display: flex; justify-content: space-between;"> Project 0003 Page 5 of 15 Pages Exhibit R-2A (PE 0207581F) </div>																																																																												

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE

February 2002

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

07 - Operational System Development

0207581F JOINT STARS

0003

(U) E. Schedule Profile Continued

	<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) RTIP EMD Contract Award	*											
(U) STS Development Start	*							X				
(U) SATCOM Development Complete										X		
(U) FCTS Delivered								X				
(U) RVSM Contract Award						X						
* Denotes completed event												
X Denotes planned event												

Note: Beginning in FY02 MP- RTIP funding moves to BPAC 674995, same PE 27581F.

Beginning in FY03 MP-RTIP funding moved under new Program Element #27449F.

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development					0207581F JOINT STARS				0003		
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>											
					<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>		
(U) Block 20 (CRP,Training & Support Systems)					25,786		13,766				
(U) Block 30 (SATCOM, ASU (Link 16), Connectivity), etc.					23,511		23,628		16,600		
(U) Block 40 Multi-Platform RTIP Efforts (funds realigned to BPAC 674995 in FY02. In FY03 new PE established #27449F.					50,359		0		0		
(U) Test Efforts					30,955		27,083		30,759		
(U) FCTS Development					6,500		643		0		
(U) GATM PreEMD Risk Reduction (Congressional Add)					4,847		0		0		
(U) Indirect SPO Support					3,534		3,224		3,784		
(U) R&M Enhancements/International Activities (NC3A, CAESAR, etc.)					100		0		0		
(U) Kill Chain Enhancements (Spiral Development)					0		954		372		
(U) Reduced Vertical Separation Minimum (RVSM)					0		5,800		0		
(U) ABCCC Migration					0		0		4,000		
(U) Total					145,592		75,098		55,515		
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>											
(U) <u>Performing Organizations:</u>											
<u>Contractor or</u>		<u>Contract</u>									
<u>Government</u>		<u>Method/Type</u>		<u>Award or</u>		<u>Performing</u>		<u>Project</u>			
<u>Performing</u>		<u>or Funding</u>		<u>Obligation</u>		<u>Activity</u>		<u>Office</u>		<u>Total Prior</u>	
<u>Activity</u>		<u>Vehicle</u>		<u>Date</u>		<u>EAC</u>		<u>EAC</u>		<u>to FY 2001</u>	
<u>Product Development Organizations</u>											
NG**		CPFF		May 97		166,491		166,491		123,518	
Computer Replacement Program										0	
NG -STS Phase I		FFP		Dec 00		42,100		42,100		0	
NG - SATCOM EMD		CPFF		May 97		35,074		37,950		8,370	
NG - Link 16		FFP		Dec 02		28,400		28,400		0	
										25,786	
										13,766	
										0	
										7,500	
										23,511	
										23,628	
										9,100	
										0	
										0	
										9,100	
										9,100	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)									DATE		
									February 2002		
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT	
07 - Operational System Development					0207581F JOINT STARS					0003	
(U) <u>Performing Organizations Continued:</u>											
<u>Product Development Organizations</u>											
NG - GATM	Various	Mar 01	4,847	4,847	0	4,847	0	0	157,400	162,247	
NG - Kill Chain Enhancements (Spiral Dev)	Various	Various	N/A	N/A	0	0	954	372	Continuing	TBD	
NG - Multi-Platform Radar Tech. Insertion Prog.	CPFF	May 97	146,384	146,384	22,372	50,359	0	0		72,731	
NG - Other Dev. Efforts	Various	Various	N/A	N/A	2,339,634	100	0	0		2,339,734	
NLX Corp - Flight Crew Training Sys	FFP	SEP 00	11,914	11,914	0	6,500	643	0		7,143	
NG - RVSM	TBD	Jun 02	N/A	N/A	0	0	5,800	0		5,800	
ABCCC Migration	Various	Various	N/A	N/A	0	0	0	4,000		4,000	
** Northrop Grumman											
<u>Support and Management Organizations</u>											
Joint Program Office - Indirect SPO Ops Support		N/A	N/A	N/A	0	3,534	3,224	3,784		10,542	
<u>Test and Evaluation Organizations</u>											
NG - E-8C Follow-On Test Support	SS/FFP/CPFF	Aug 96	N/A	N/A	30,625	17,841	15,400	18,499	Continuing	TBD	
NG - Aircraft Over & Above Tests	SS/FFP/CPFF	Aug 96	N/A	N/A	5,480	4,070	3,473	3,358	Continuing	TBD	
NG - Follow- On Test Support - MILSTRIP	SS/FFP/CPFF	Aug 96	N/A	N/A	1,259	333	338	344	Continuing	TBD	
Range Support	Allotment	N/A	N/A	N/A	26,696	1,165	1,200	1,236	Continuing	TBD	
Horizons Tech. (SETA)	Time and Materials	Various	N/A	N/A	36,136	5,525	4,708	5,149	Continuing	TBD	
Joint Test Force Support	Allotment	N/A	N/A	N/A	25,863	2,021	1,964	2,173	Continuing	TBD	
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002		
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development				0207581F JOINT STARS				0003	
(U) <u>Government Furnished Property:</u>									
	<u>Contract</u>								
	<u>Method/Type</u>	<u>Award or</u>							
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>									
N/A									
<u>Support and Management Property</u>									
N/A									
<u>Test and Evaluation Property</u>									
N/A									
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				2,493,894	111,103	44,791	20,972	TBD	TBD
Subtotal Support and Management				0	3,534	3,224	3,784		10,542
Subtotal Test and Evaluation				126,059	30,955	27,083	30,759	TBD	TBD
Total Project				2,619,953	145,592	75,098	55,515	TBD	TBD

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Exhibit R-3 (PE 0207581F)

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BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207581F JOINT STARS				PROJECT 4995	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4995 Multi-Platform RTIP	0	77,630	0	0	0	0	0	Continuing	TBD
<p>1. In FY 2002, Project Number 674995, Multi-Platform RTIP was established within PE 0207581F, Joint STARS, using existing RTIP funds from PE 0207581F, Joint STARS, Project Number 670003, JSTARS, to better track program funding. Commencing in FY 2003, funding for this continuing project transferred to PE 0207449F Multi-sensor Command and Control Constellation (MC2C), Project 675065 Sensors, reflecting decision to host MP-RTIP radar on 767-400ER platform.</p> <p>(U) <u>A. Mission Description</u> The Multi-Platform Radar Technology Insertion Program (MP-RTIP) program is the result of a restructuring of the Joint STARS Radar Technology Insertion Program (RTIP), formerly a Pre-Planned Product Improvement to Joint STARS. MP-RTIP will deliver enhanced Wide Area Surveillance (WAS) system capabilities to the warfighter, provide for a robust Global Hawk reconnaissance capability, and enable the NATO Trans Atlantic Advanced Radar (NATAR) program. This WAS system capability will allow commanders to conduct wide area surveillance to detect, locate, classify, track, and monitor moving targets and provide target information to assigned direct aerospace and ground weapons systems. Wide-Area surveillance is required to monitor the movement and disposition of enemy forces and for use in resource prioritization, force allocation and Intelligence Preparation of the Battlefield at Army, Navy and Air Force Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) elements. To that end, MP-RTIP will include design of a modular, scalable two-dimensional active electronically scanned array (2D-AESA) radar, and development, fabrication, and test of MP-RTIP radars suitable for future integration on various airborne platforms. Specifically, this modular, scalable radar, when integrated on a suitable WAS airborne platform, must deliver mission capability as reflected in the validated RTIP Operational Requirements Document (ORD) by 2012. Although the users' need date for an RTIP capability remains 2010; the user has accepted the 2012 delivery date. The radar must meet the US sensor commitment to NATO in 2007, and when integrated on an unmanned air vehicle, provide enhanced Global Hawk (GH) capability. The MP-RTIP program includes concept exploration, technology development, system development/demonstration, and spiral development efforts supporting continuous improvements and implementation of Command & Control, Intelligence, Surveillance, and Reconnaissance (C2ISR) capabilities to enable a joint global strike task force. These efforts include but are not limited to manned and unmanned platforms, space, data links, combat identification, and advanced battle management command, control, and communications (BMC3) concepts.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$0 Activity prior to FY02 reported in PE 0207581; Project 670003. (U) \$0 Total</p>									
Project 4995		Page 10 of 15 Pages				Exhibit R-2A (PE 0207581F)			

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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207581F JOINT STARS	
		PROJECT 4995

(U) **A. Mission Description Continued**

(U) FY 2002 (\$ in Thousands)

(U) \$73,970	Continue Multi-Platform RTIP radar design and development for Wide Area Surveillance (WAS), Global Hawk target platforms, and NATAR.
(U) \$1,760	Continue Test Efforts (includes Operator-In-The-Loop [OITL]; Joint Test Force Support; AFOTEC Support)
(U) \$1,300	Continue SPO Operations
(U) \$600	Continue Future Studies/Spiral Development--includes concept exploration, program definition/risk reduction, and spiral development efforts supporting continuous improvements and implementation of Command & Control, Intelligence, Surveillance, and Reconnaissance (C2ISR) capabilities to enable a joint global strike task force. These efforts include but are not limited to manned and unmanned platforms, space, data links, combat identification, and advanced battle management command, control, and communications (BMC3) concepts.
(U) \$77,630	Total

(U) FY 2003 (\$ in Thousands)

(U) \$0	Continuing activity transferred to PE 0207449F, Multi-sensor Command and Control Constellation (MC2C), Project 675065 Sensors, reflecting decision to host MP-RTIP on a 767-400ER.
(U) \$0	Total

(U) **B. Project Change Summary**

This program is in Budget Activity (BA) 7 , Operational System Development. In an Acquisition Decision Memorandum dated 11 Dec 00, the Multi-Platform Radar Technology Insertion Program (MP-RTIP) was created from the Radar Technology Insertion Program (RTIP) to leverage the RTIP Wide Area Surveillance radar design for application to the Global Hawk and NATAR platforms. The MP-RTIP program is a result of a restructuring of the Joint STARS RTIP program, formerly a Pre-Planned Product Improvement to Joint STARS.

Specific Changes:

FY 2002: Decrease of \$1,370 reflects general Congressional reductions.

FY 2003: Continuing activity in FY 2003 for this project transferred to PE 0207449F Multi-sensor Command and Control Constellation (MC2C), Project 675065 Sensors, reflecting decision to host MP-RTIP radar on 767-400ER platform. Transferred funding increased by \$10,325 for additional risk reduction testing during radar design.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207581F JOINT STARS			PROJECT 4995	
(U) C. Other Program Funding Summary (\$ in Thousands)								
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>
(U) AF RDT&E								
(U) PE 0305206F/Project 674819		9,000	10,000	7,000	2,000			Continuing
(U) PE 0305205F/Project 674799			17,000	40,000	13,000	1,000		Continuing
(U) Other APPN								
Multi Platform-Common Data Link (PE 0305206F)								
GLOBAL HAWK (PE 0305205F)								
(U) D. Acquisition Strategy The MP-RTIP program is currently planning for five manned WAS aircraft** as well as 35 Global Hawk air vehicles to receive the 2D-AESA radars. Low Rate Initial Production (LRIP) quantity is one sensor kit for the WAS aircraft, and seven sensors for Global Hawk. Exit criteria will be established at MS B that must be satisfied prior to proceeding with LRIP. All other procurement activities for all platforms will be formally updated at MS B in FY03.								
(U) E. Schedule Profile								
		<u>FY 2001</u>			<u>FY 2002</u>			<u>FY 2003</u>
	1	2	3	4	1	2	3	4
(U) MP-RTIP PHASE 1 AWARD	*							
(U) MP-RTIP PHASE 1 DEFINITIZED			*					
(U) MP-RTIP INTEGRATED BASELINE REVIEW			*					
(U) RADAR REQUIREMENTS REVIEW					*			
(U) RADAR FUNCTIONAL REVIEW						X		
(U) MP-RTIP PLATFORM DECISION					*			
(U) **INITIAL DESIGN REVIEW (IDR)							X	
(U) **MILESTONE B								X
* Denotes completed event X Denotes planned event								
** Note: FY 2003 activity transfers to PE 0207449F, Multi-sensor Command and Control Constellation (MC2C); Project 675065 Sensors, reflecting decision to host								
<div style="display: flex; justify-content: space-between;"> Project 4995 Page 12 of 15 Pages Exhibit R-2A (PE 0207581F) </div>								

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207581F JOINT STARS			PROJECT 4995			
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
						<u>FY 2001</u>	<u>FY 2002</u>		<u>FY 2003</u>	
(U)	MP-RTIP						73,970		0	
(U)	Test Efforts (OITL, JTF, AFOTEC)						1,760		0	
(U)	SPO Operations						1,300		0	
(U)	Future Studies/Spiral Development						600		0	
(U)	Total						77,630		0	
MP-RTIP's funding was a part of Joint Stars PE 0207581F, Project 670003 until FY02. For FY 2002, MP-RTIP funding is reported in the Joint Stars PE 0207581F, Project 674995. NATAR within the restructured MP-RTIP program continues effort previously begun under JSTARS RTIP program. NATAR is not a New Start. Commencing in FY 2003 this continuing activity will transfer to PE 0207449F, Multi-sensor Command and Control Constellation (MC2C); Project 675065, Sensors, reflecting decision to host MP-RTIP on a 767-400ER platform.										
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>										
(U) <u>Performing Organizations:</u>										
	<u>Contractor or</u>	<u>Contract</u>								
	<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>					
	<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
	<u>Product Development Organizations</u>									
	Northrop Grumman-Multi	CPAF	DEC 00					73,970	0	Continuing
	Platform-Radar Technology									
	Insertion Program (RTIP									
	funding prior to FY02									
	reported in Project 670003,									
	same PE)									
	MIT/Lincoln Labs	Various	Various	N/A	N/A			600	0	Continuing
	<u>Support and Management Organizations</u>									
	Program Office Support	N/A	N/A	N/A	N/A			1,300	0	Continuing
Project 4995										
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002		
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT	
07 - Operational System Development					0207581F JOINT STARS			4995	
(U) <u>Performing Organizations Continued:</u>									
<u>Test and Evaluation Organizations</u>									
OITL	Allotment	N/A	N/A	N/A	1,000	0	Continuing	TBD	
JTF Support	Allotment	N/A	N/A	N/A	60	0	Continuing	TBD	
AFOTEC Support	Allotment	N/A	N/A	N/A	700	0	Continuing	TBD	
** Note: FY 2003 activity transfers to PE 0207449F, Multi-sensor Command and Control Constellation (MC2C); Project 675065 Sensors, reflecting decision to host MP-RTIP on a 767-400ER platform.									
(U) <u>Government Furnished Property:</u>									
	<u>Contract</u>								
	<u>Method/Type</u>	<u>Award or</u>							
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>									
N/A								Continuing	TBD
<u>Support and Management Property</u>									
N/A								Continuing	TBD
<u>Test and Evaluation Property</u>									
N/A								Continuing	TBD
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development						74,570	0	TBD	TBD
Subtotal Support and Management						1,300	0	TBD	TBD
Subtotal Test and Evaluation						1,760	0	TBD	TBD
Total Project						77,630	0	TBD	TBD

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